The NH Climate Action Plan

A Plan for New Hampshire's Energy, Environmental, and Economic Development Future

Tom Burack, NHDES
Mike Fitzgerald, NHDES
Chris Skoglund, NHDES

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Presentation Outline

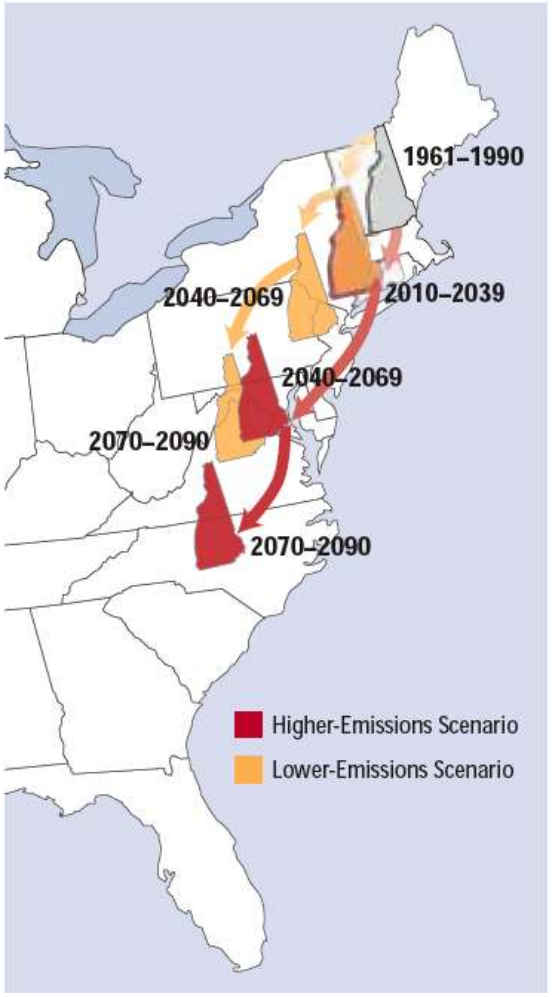
- Background
- Plan Development
- Plan Recommendations
- Plan As Living Document

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

NH's Changing Climate Patterns

Observed Changes

- Increased average temperature
- Changing precipitation patterns and intensity
  - Less Snow
  - Summer drought
- Increase in extreme weather
  - Flooding
  - Wind – micro bursts
- Changing seasonality



Wake and Markham, 2005; Wake et al., 2006; and TRB, 2008.

Presidentially-Declared Storm-Related Disasters

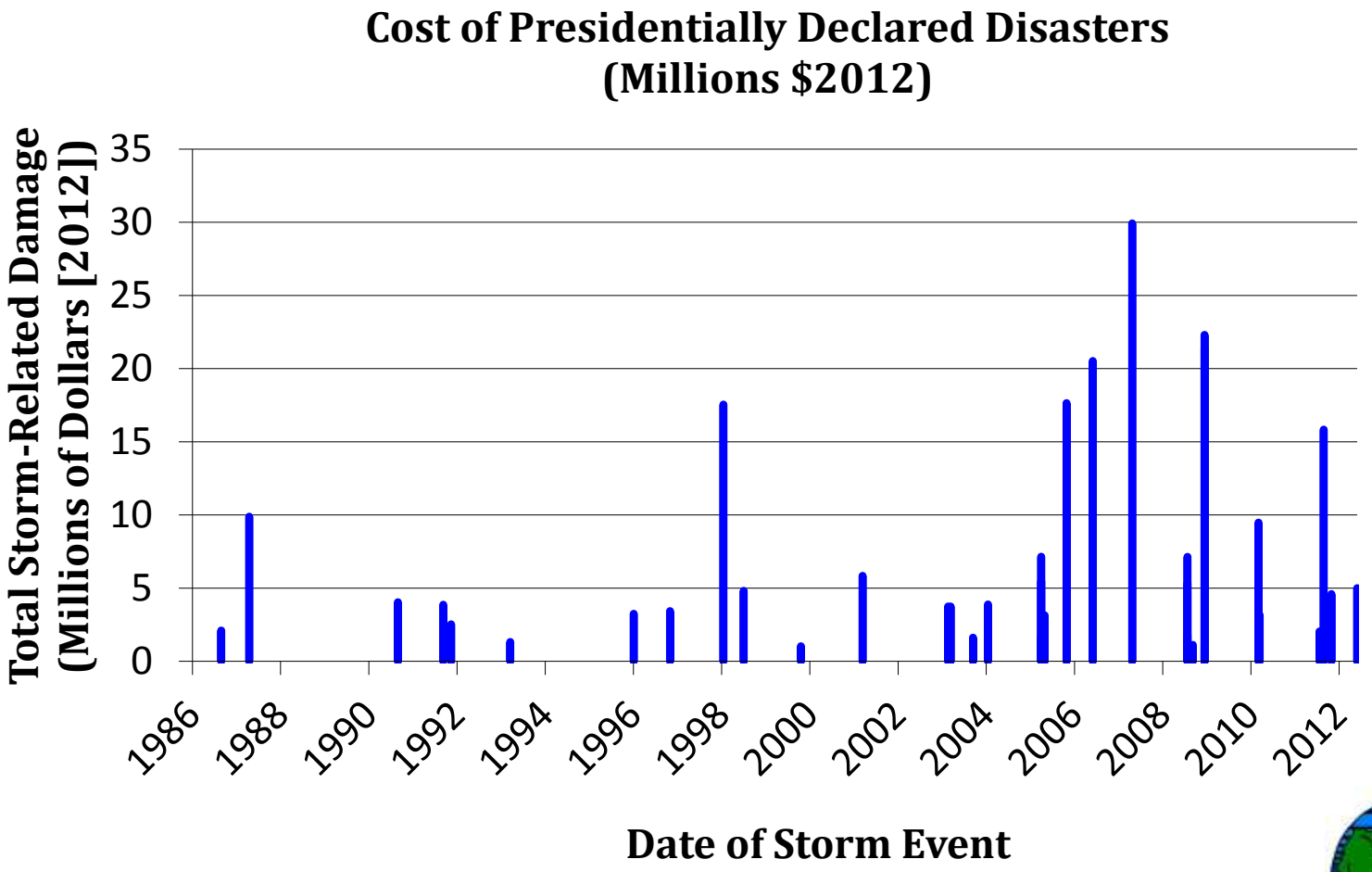
- 2003-2012 (**10 Years**)
  - 15 Declared Disasters
    - 1 Hurricane
    - 1 Tropical Storm
    - 11 Severe Storms
      - 1 Fall Snow Storm
    - 2 Winter Storms
- 1953-2002 (**50 Years**)
  - 14 Declared Disasters

Axe Handle Brook, Rochester, NH, May 2006

Loon Mountain, Lincoln, NH 2011

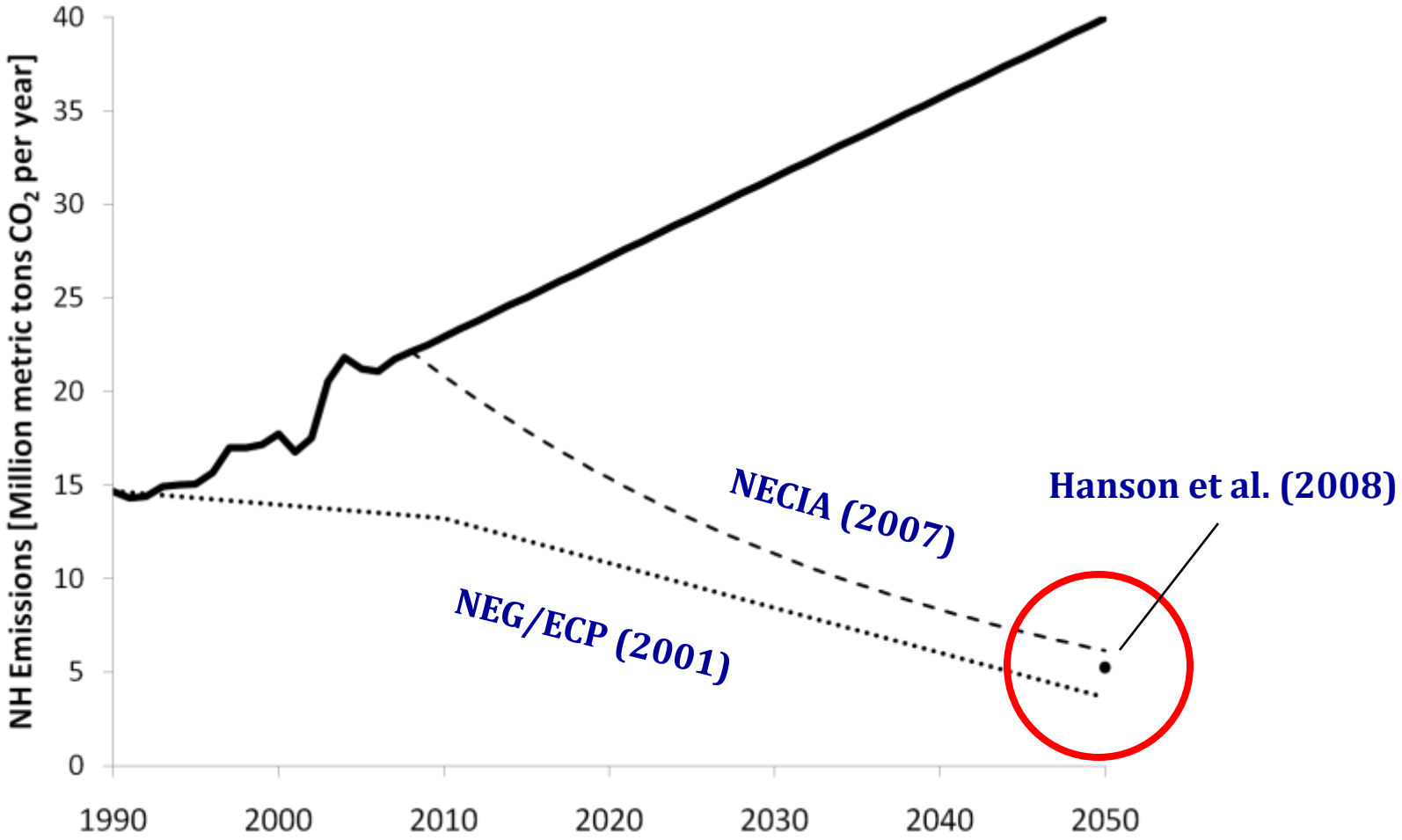
Source: FEMA.gov

Presidentially-Declared Storm-Related Disasters



NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Overwhelming Scientific Evidence



Analysis conducted by CSNE

Climate Change Policy Task Force

- Established through Executive Order 2007-3 December 6, 2007.
- Charged with:
  - Establishing quantified greenhouse reduction goals; and
  - Recommending specific regulatory, voluntary and policy actions to achieve those goals.

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Climate Change Policy Task Force
Membership

Twenty-nine (29) members

- Broad geographic representation
- Broad expertise and experience
  - State agency commissioners
  - House & Senate members
  - General commerce & industry
  - Environmental interests
  - Forestry sector
  - Science/academia
  - Public utilities;
  - Municipal government
  - Insurance industry

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Technical and Policy Support

Six (6) Working Groups -125+ Participants

- Electric Generation and Usage
- Transportation and Land Use
- Residential, Commercial and Industrial
- Agriculture, Forestry and Waste
- Government Leadership and Action
- Adaptation to Climate Change

Technical Consultant

- Climate Solutions New England

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Climate Change Policy Task Force
Extensive Public Process

- Six (6) Official Listening Sessions across the state
  - 15 Locations
  - 275 Participants
  - 100 Commenters
- Hundreds of additional emails, letters and calls considered
- Summary Available online: http://des.nh.gov/organization/divisions/air/tsb/tps/climate/action_plan/documents/032509_nhccptf_appendix_3.pdf

Task Force Principles

1. Reduce greenhouse gas emissions to 80% below 1990 levels by 2050.
2. Create economic opportunity, while considering all costs and benefits.
3. Focus investments in a phased-in approach.
4. Do not further disadvantage already disadvantaged populations

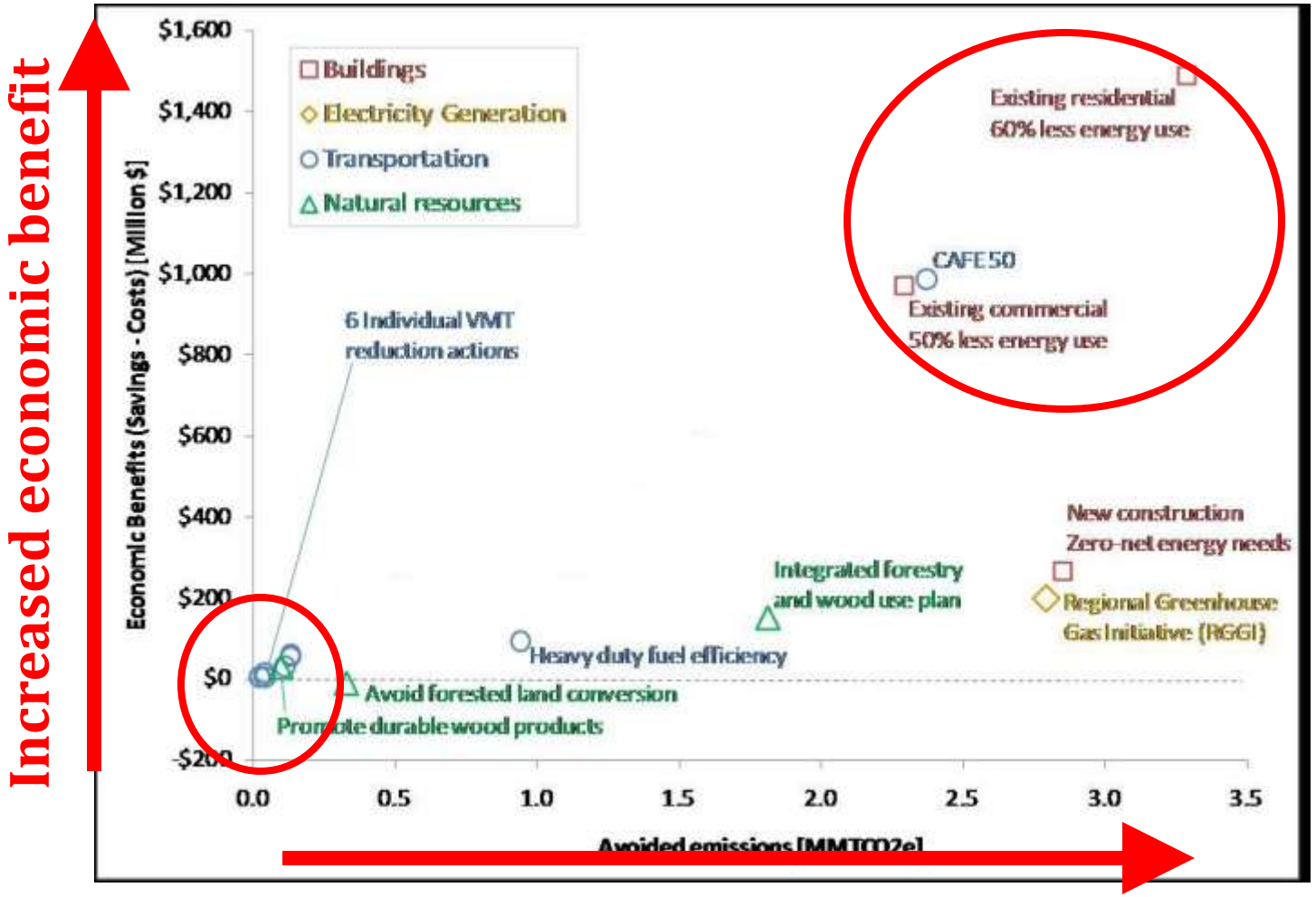
NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Task Force Principles Cont'd

5. Reduce the vulnerability of the natural and built environment.
6. Engage the public to take action.
7. Sustain the state's resources.
8. Integrate accountability and adaptability into the Plan's implementation

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Economic Benefits
& Avoided Emission Reductions

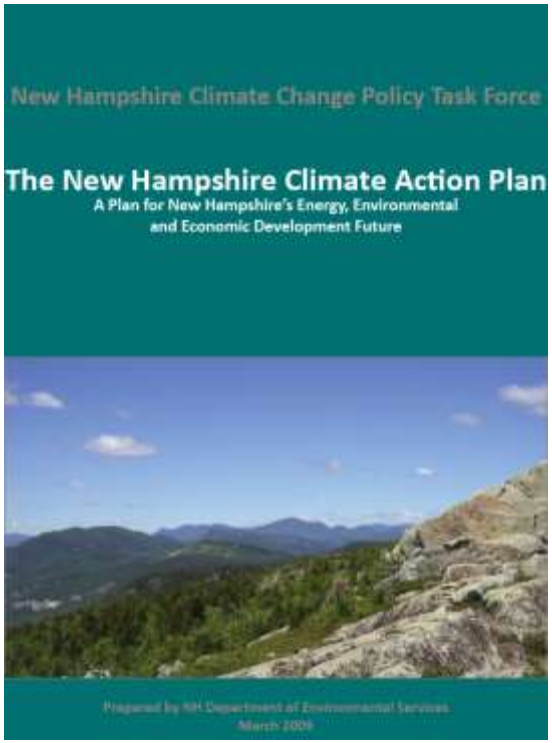


Analysis conducted by CSNE

NH Climate Action Plan

The Plan

- Plan completed in March 2009



The Goals

Reduce greenhouse gas emissions:

- 20% below 1990 levels by 2025

  [44% below 2005 levels by 2025]

- 80% below 1990 levels by 2050

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Essential Strategies to Achieve Goals

- Maximize energy efficiency in buildings and transportation;
- Increase renewable and low-CO_2-emitting heat and electric power sources;
- Protect our natural resources to maintain the amount of carbon sequestered;
- Raise the awareness, knowledge and skills related to climate change and solutions; and
- Adapt to the impacts of existing and potential climate change.

Buildings Sector Goals and Targets

- By 2020, new Residential buildings will consume zero net energy from fossil fuel energy sources.

- By 2025, existing Residential buildings will consume 60% fewer BTUs from fossil fuel than 2005.
- By 2025, existing Commercial, Industrial, and Municipal buildings will consume 50% fewer BTUs/sq ft. from fossil fuel energy sources than in 2005.

Increase Renewable/Low-CO_2 Emitting Resources

- Implement Regional Greenhouse Gas Initiative (RGGI)
- Promote Renewable Energy through the Electric Portfolio Standard (RPS)
- Increase Renewable Energy and Low-CO_2e Thermal Energy Systems
- Encourage the Use of Biogenic Waste Sources for Energy Generation

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Encourage Land use Patterns that Reduce VMT

- Streamline Approvals for Low- Greenhouse Gas Development Projects
- Develop Model Zoning to Support Bus/Rail Transit
- Develop Model Zoning for Higher-Density, Mixed-Use Development
- Continue/Expand Funding, Education, and Technical Assistance to Municipalities

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Reduce VMT through an Integrated Multi-Modal Transportation System

- Implement a Stable Funding Stream to Support Public Transportation
- Improve and Expand Bus Service
  - *Local*
  - *Intercity*
- Maintain and Expand Freight Rail Service
  - Critical to maintaining roads
  - The Precursor to Passenger Rail

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Protect natural resources to maintain the amount of carbon fixed/sequestered

- Maximize Availability of Biomass for Electricity and Heating within Sustainable Limits
- Protect Forests
- Promote Durable Wood Products
- Maximize Source Reduction and Recycling

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Lead by Example in Government Operations

- Establish an Energy Management Unit
- Establish a Self-Sustaining Fund for Energy Efficiency Projects in State Government
- Provide for the Establishment of Local Energy Commissions
- Increase Funding for High-Performance Public Schools

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Integrated Education, Outreach and Workforce Training Program

- Energy Efficiency and Conservation in School Curricula
- Develop Residential Energy Efficiency and Conservation Programs
- Create an Energy Efficiency and Sustainable Energy Systems Web Portal
- Increase Energy Efficiency through Building Management Education Programs

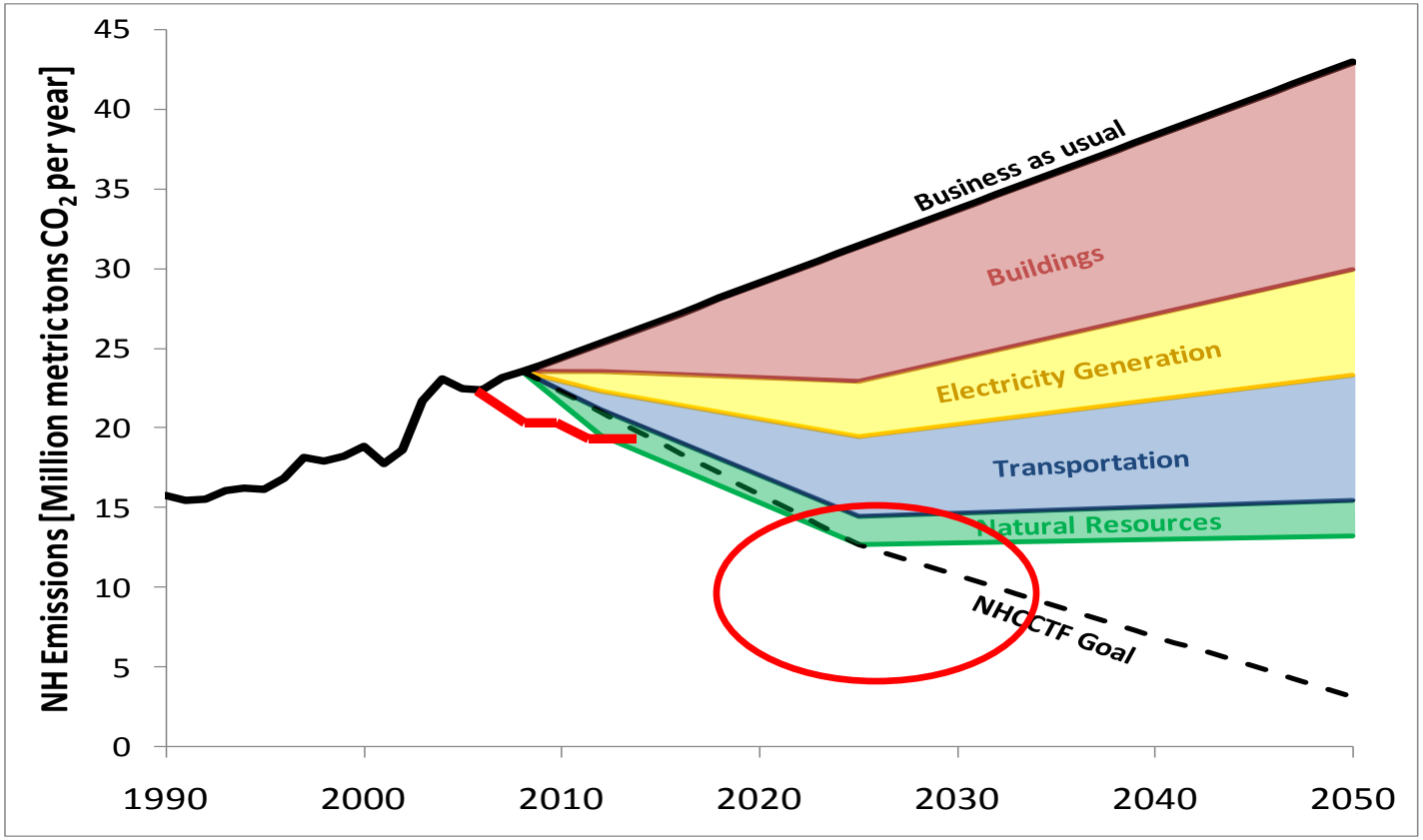
NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Plan for Existing and Potential Climate Change Impacts

- Develop a Climate Change Adaptation Plan for the State of New Hampshire
- Develop and Distribute Critical Information
- Focus Policies and Actions to Most at Risk Populations
- Charge and Empower Public Health Officials
- Increase Resilience of Natural and Built Environments

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Climate Action Plan
Emission Reduction Potential



Historical data from EPA
Business as Usual (BAU) estimates from CSNE

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

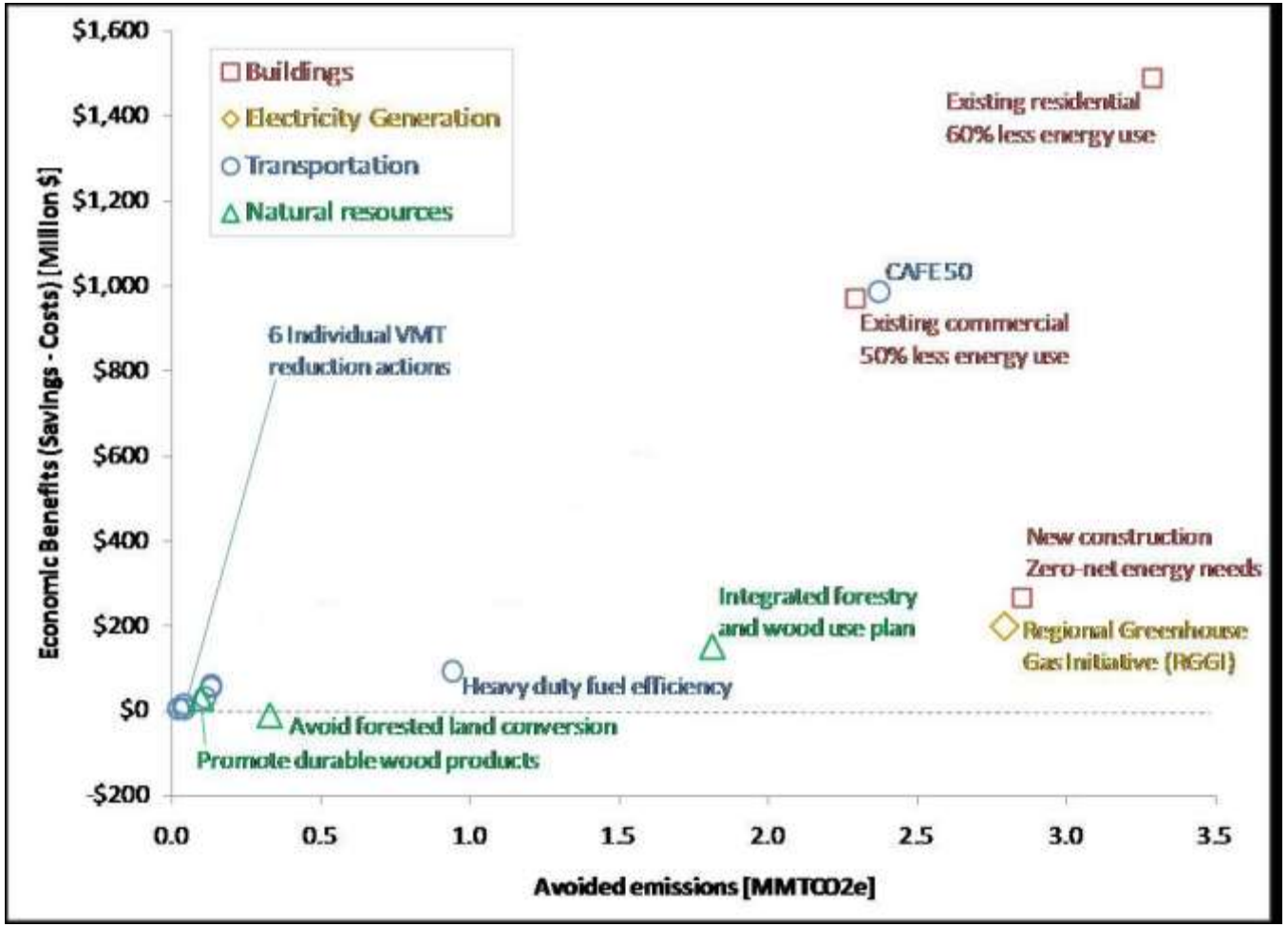
Direct Takeaway Messages

Solutions = Opportunity

- Spur economic growth through re-investment of avoided energy costs
- Create jobs and economic growth through development of in-state energy sources
- Avoid the significant costs of responding to a changing climate
- Preserve the unique quality of life in NH

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Benefit of Implementation



Analysis conducted by CSNE

Carrying the Work Forward

Transportation & Land Use

- RPC's "A Granite State Future" (GSF)

Heat & Power

- Energy Efficiency and Sustainable Energy (EESE) Board

State Leadership

- Interagency Energy Efficiency Committee (IEEC)

Local Communities

- Local Energy Working Group (LEWG)

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Contacts

Thomas S. Burack
Commissioner

Mike Fitzgerald
Administrator, Tech Services Bureau

Chris Skoglund
Energy & Climate Analyst

Air Resources Division - NH Department of Environmental Services

Download Action Plan

Visit **http://des.nh.gov/**

Search for “climate action plan”

NEW HAMPSHIRE DEPARTMENT OF Environmental Services